**FIG. 1**

CPU — 102

ROM — 104
BIOS — 106

RAM — 108
Application Programs
WWW Browser
Operating System

Hard Disk Drive — 118

CD-ROM / DVD-ROM Drive — 122

Network Interface Unit — 124

I/O Interface — 120

Video Display Adapter

Modem — 132

100 — 103

105

— 126

— 128

130

Local Area Network — 136

Internet — 138

Host — 140

Internet Service Provider — 134

WWW/FTP Server — 142

Scripts — 144

JAVA Apps. — 146

Web Pages — 150

Data Files

Data Bases — 152

*FIG. 2*



*FIG. 3*

Fig. 4A

CONDOR" 98969969

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print

Links >>

Address http://entserver/sma/  Go

Incident Investigation Response Configure

Report View Search Edit

POLICY ASSETS FIXES ALERTS SAFELINK I

400B

480

490

**Configure Patterns**

| Pattern Name | Case Insensitive | Highlight SubExpression | Pattern Expression | | |
|---|---|---|---|---|---|
| IP Address | no | 0 | ([0-9]+\.){3}[0-9]+ | Edit | Delete |

*Pattern Name:

*Pattern Expression:

Highlight Subexpression: 0

Case Insensitive:

Test Pattern:

Create

Test

Done  Local intranet

*Fig. 4B*

Lunglish - Microsoft Internet Explorer provided by Internet Security Systems

File Edit View Favorites Tools Help

Links

ISS

POLICY ASSETS FIXES ALERTS SAFELINK INCIDENT

Report   View   Search   Edit

Incident   Investigation   Response   Configure

440

505

**Search Incidents**

Incident:

Incident ID:

Incident Name:   Contains ▶   DDoS

Description:   Contains ▶

Incident Attributes:

State:   In Investigation ▶

Severity:   ▶

Category:   Denial of Service Attack ▶

Attack ISP Name:

External Attacker:   ▶

Entry Point:   ▶

Target Firewall:

Target Service:

Damage Type:   ▶

510

—Incident Time Frame:—

Reported Btwn:   2000 ▶   1 ▶   1 ▶   & 2000 ▶   7 ▶   17 ▶

Happened Btwn:   ▶   ▶   & ▶   ▶

Closed Btwn:   ▶   ▶   & ▶   ▶

Incident Status:   ▶

Scope:   ▶

Attack IP Addr.:

Attack Country:

Incident Type:   ▶

Target Network:

Target Host:

Target Account:

Target OS Type:   ▶

Search

500

Local intranet

*Fig. 5*

**Lungfish - Microsoft Internet Explorer provided by Internet Security Systems**

File   Edit   View   Favorites   Tools   Help

Incident   Investigation   Response   Configure
Report   View   Search   Edit

POLICY   ASSETS   FIXES   ALERTS   SAFELINK   INCIDEN...

## Search Results

You can click on the Incident ID to edit the incident, click on the Incident Name to view the incident.

| ID | Status | Incident Name | Incident Date | Report Date |
| --- | --- | --- | --- | --- |
| 954520331553 | In Investigation | Test Incident1 | 03/01/2000 05:57:00 PM | 03/31/2000 11:32:11 AM |
| 955994401480 | New | DDoS Attack on EBay.com | 04/17/2000 01:52:03 PM | 04/17/2000 02:00:01 PM |
| 956002249963 | New | Test Incident | 04/17/2000 04:09:39 PM | 04/17/2000 04:10:49 PM |
| 956149177445 | New | Test Apache | 04/19/2000 08:55:00 AM | 04/19/2000 08:59:37 AM |
| 956172292063 | New | Test Apache | 04/19/2000 08:55:00 AM | 04/19/2000 03:24:52 PM |
| 956172334183 | New | Test Apache | 04/19/2000 08:55:00 AM | 04/19/2000 03:25:34 PM |
| 956174666357 | New | Alert Test Again | 04/19/2000 04:03:00 AM | 04/19/2000 04:04:26 PM |
| 955981258675 | New | testsecurity | 06/02/2000 05:26:00 AM | 06/02/2000 05:27:38 PM |
| 963410616255 | New | Test IncidentHandler | 07/01/2000 10:02:00 AM | 07/12/2000 10:03:36 AM |
| 963414077562 | New | Denial of Service Attack 3 | 07/01/2000 11:00:00 AM | 07/12/2000 11:01:17 AM |
| 963927374185 | In Investigation | DDoS Attack on Major Internet Sites | 07/18/2000 09:32:00 AM | 07/18/2000 09:36:14 AM |
| 963929615578 | In Investigation | DDoS Attack on Major Internet Sites | 07/18/2000 10:10:00 AM | 07/18/2000 10:13:35 AM |
| 963931422647 | In Investigation | DDoS Attack on Major Internet Sites | 07/18/2000 10:40:00 AM | 07/18/2000 10:43:42 AM |

Done                                    Local intranet

*Fig. 6*

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File  Edit  View  Favorites  Tools  Help

Links

POLICY  ASSETS  FIXES  ALERTS  SAFELINK  INCIDENT

ISS

Incident — 715

Procedure — 710

Investigation  Response  Configure

Tools — 720

Action Records

Document — 735

Procedure: DoS Investigation Procedure — 730

Incident: 96393142647--07/18/2000 10:40:00 AM--DDoS Attack on Major Internet Sites — 745

## DDoS Attack on Major Internet Sites

Incident:
Incident Reported: 07/18/2000 10:43:42 AM
Incident Happened: 07/18/2000 10:40:00 AM
Description: Several major internet sites, such as YAHOO.com, AMAZON.com are attacked by a group of hackers using "Distributed Denial of Service" attack.
Reporter Name: rixin (Rixin Ge)

**Procedure - DoS Investigation Procedure**

Click the hyperlink of the steps that you would like to execute — 750

Run Whois — 755

RunNMap

Run Traceroute

Run NSLookup

Show Action Records In:  (•) Ascending Order   ( ) Descending Order

Expand All   Close All

| Action Name | Begin Time | Finish Time | User |
|---|---|---|---|
| Run WhoIs | 07/18/2000 10:52:07 AM | 07/18/2000 10:52:12 AM | rixin |
| RunNMap | 07/18/2000 10:52:29 AM | 07/18/2000 10:52:33 AM | rixin |
| Run NSLookup | 07/18/2000 10:53:00 AM | 07/18/2000 10:53:02 AM | rixin |

```
Server:  goliath.iss.net
Address: 208.21.2.12

Non-authoritative answer:
Name:     aol.com
Addresses: 205.188.146.23, 205.188.160.121
Aliases:  www.aol.com
```

Add Comments — 760

Local intranet

*Fig. 7*

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File    Edit    View    Favorites    Tools    Help

Links »

ISS

POLICY    ASSETS    FIXES    ALERTS    SAFELINK    INCIDENT

Incident    Investigation    Response

Procedure    Tools    Action Records    Document

800

725

Procedure:    DoS Investigation Procedure

Incident:    96393142264/–07/18/2000 10:40:00 AM–DDoS Attack on Major Internet Sites

**Procedure - DoS Investigation Procedure**

Click the hyperlink of the steps that you would like to execute

Run WhoIs — 750

RunNMap — 755

Run Traceroute

Run NSLookup

Call FBI — 805

**Document Action Result**

Please select an Incident, add the relevant information to document and then click the "Document Result" button. (The fields marked as * are required fields.)

*Select An Incident

96393142264/–07/18/2000 10:40:00 AM–DDoS Attack on Major Internet Sites

*Action Taken:    Call FBI

*Action Date & Time:    2000-07-18 10:55:58

*Result Date & Time:    2000-07-18 10:55:58

810

*Results

FBI was informed of this incident and investigation progress.

Document Result

Local intranet

*Fig. 8*

Fig. 9

(Screenshot text content)

Lunglish - Microsoft Internet Explorer provided by Internet Security Systems

File  Edit  View  Favorites  Tools  Help

Incident  Investigation  Response  Configure
Report  View  Search  Edit

POLICY ASSETS FIXES ALERTS SAFELINK INCIDENT        ISS

**View Incident**

96393142647--07/18/2000 10:40:00 AM--DDoS Attack on M

Incident Name:       DDoS Attack on Major Internet Sites
Report Date:         2000-07-18 10:43:42:0
Incident Date:       2000-07-18 10:40:00:0
Created By:          rixin
                     Rixin Ge
                     Engineering, SMA
                     (678)443-6097
                     rge@iss.net
Incident Type:       Intrusion
Target OS Type:      Unknown
External Attacker:   Yes
Entry Point:         Network
Scope:               Multiple Hosts
Severity:            High
Damage Type:         Server Low Performance
Incident Status:     In Progress
Category:            Denial of Service Attack
State:               In Investigation

**DDoS Attack on Major Internet Sites**

Incident:
Incident Reported:   07/18/2000 10:43:42 AM
Incident Happened:   07/18/2000 10:40:00 AM
Description:         Several major internet sites, such as YAHOO.com, AMAZON.com, are attacked by a group of hackers using "Distributed Denial of Service" attack.
Reporter Name:      rixin (Rixin Ge)

Show Action Records In:  ⊙ Ascending Order  ○ Descending Order

Expand All   Close All

| Action Name | Begin Time | Finish Time | User |
|---|---|---|---|
| ⊞ Run WhoIs | 07/18/2000 10:52:07 AM | 07/18/2000 10:52:12 AM | rixin |
| ⊞ RunNMap | 07/18/2000 10:52:29 AM | 07/18/2000 10:52:33 AM | rixin |
| ⊞ Run NSLookup | 07/18/2000 10:53:00 AM | 07/18/2000 10:53:02 AM | rixin |
| ⊟ Call FBI | 07/18/2000 10:55:58 AM | 07/18/2000 10:55:58 AM | rixin |
| FBI was informed of this incident and investigation progress. | | | |

Local intranet

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File   Edit   View   Favorites   Tools   Help

Links

1000

ISS

Incident   Investigation   Response   Configure

POLICY   ASSETS   FIXES   ALERTS   SAFELINK   INCIDENT

Report   View   Search   Edit

425

**Update Incident "DDoS Attack on Major Internet Sites" (ID:963931422647)**

1005

Reported At:         07/18/2000 10:43:42 AM

*Incident Name:      DDoS Attack on Major Internet Sites

*State:              In Investigation

*Incident Status:    In Progress

*Scope:              Multiple Hosts

Attack IP Addr:

Attack Country:

*Incident Type:      Intrusion

Entry Point:         Network

Target Firewall:

Target Service:

Damage Type:         Server Low Performance

Target OS Type:      Unknown

*Description:        Several major Internet sites, such as YAHOO.com, AMAZON.com, are
                     attacked by a group of hackers using "Distributed Denial of
                     service" attack.

Reported By:         nixin

Incident Date:       1998 / 7 / 2

Incident Time:       10 : 40

*Severity:           High

*Category:           Denial of Service Attack

Attack ISP Name:     AOL.com

*External Attacker:  Yes

Vulnerabilities:     Buffer Overflow

Target Network:

Target Host:

Target Account:

Attack Profile:

Update Incident

Local intranet   ISS

*Fig. 10*

1100

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File   Edit   View   Favorites   Tools   Help

Links »

POLICY   ASSETS   FIXES   ALERTS   SAFELINK   INCIDENT

ISS

1110   Incident

1115   Investigation

1120   Response

1125   Configure

Tools   Action Records   Document

1130

1135
Procedure:   DoS Response Procedure

1145

**Procedure - DoS Response Procedure**

Click the hyperlink of the steps
that you would like to execute.

Run Traceroute

Kill Connection

Reconfigure Firewall

Shutdown Network

Call FBI

1140
Incident:   96939142647–07/18/2000 10:40:00 AM–DDoS Attack on Major Internet Sites

## DDoS Attack on Major Internet Sites

1150

| Incident: | |
|---|---|
| Incident Reported: | 07/18/2000 10:43:42 AM |
| Incident Happened: | 07/18/2000 10:40:00 AM |
| Description: | Several major Internet sites, such as YAHOO.com, AMAZON.com are attacked by a group of hackers using "Distributed Denial of Service" attack. |
| Reporter Name: | rixin (Rixin Ge) |

Show Action Records In:   ⊙ Ascending Order   ○ Descending Order

Expand All   Close All

| Action Name | Begin Time | Finish Time | User |
|---|---|---|---|
| ⊟ Kill Connection | 07/18/2000 11:10:13 AM | 07/18/2000 11:10:13 AM | rixin |
| connetcions from 208.21.2.234 are killed. | | | |
| Add Comments | | | |
| ⊟ Reconfigure Firewall | 07/18/2000 11:10:37 AM | 07/18/2000 11:10:37 AM | rixin |
| The firewall (208.21.2.100) is reconfigured to block all FTP connection from 208.21.2.234 | | | |

1155

Add Comments

Done                                                                    Local intranet
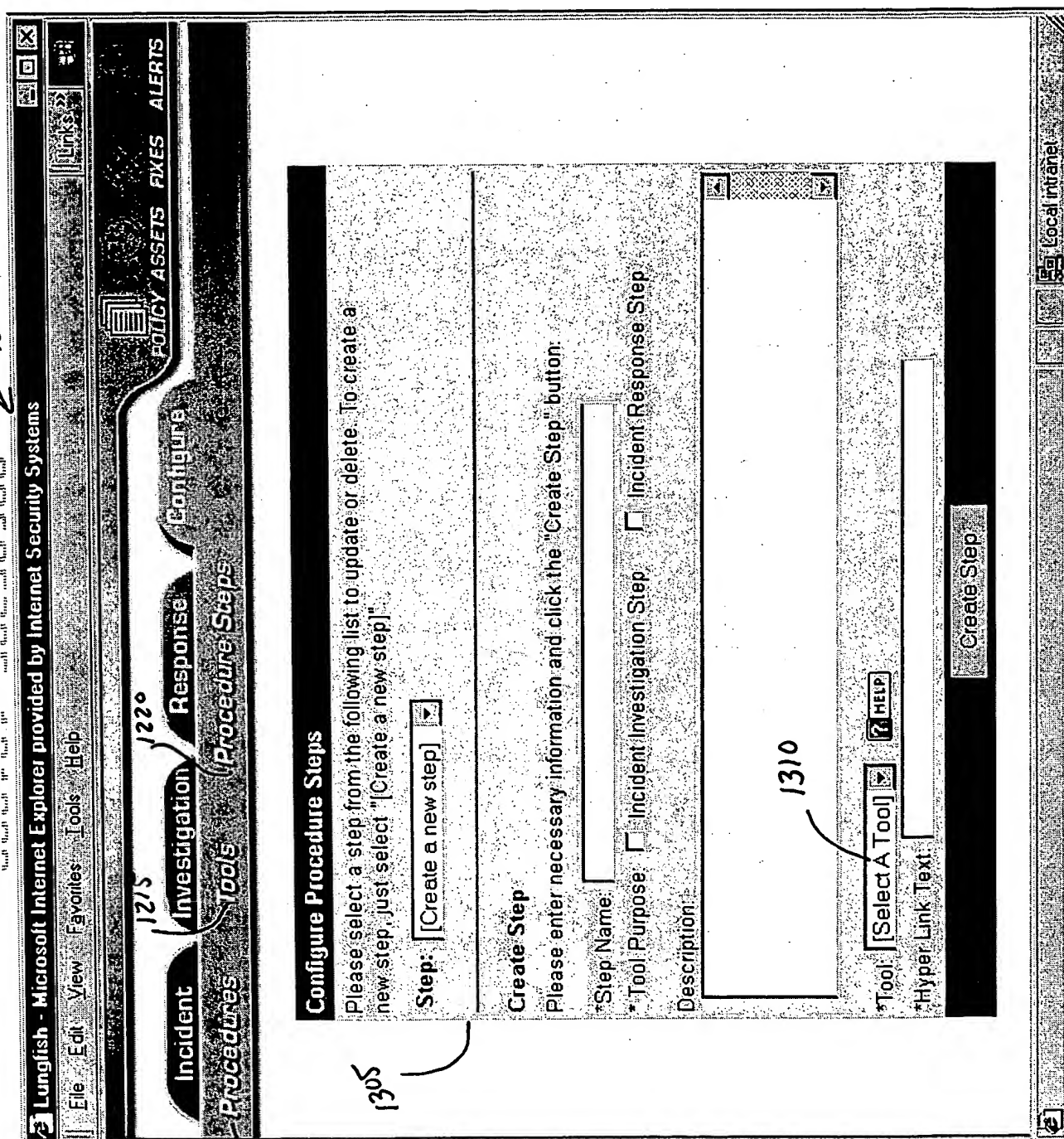
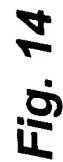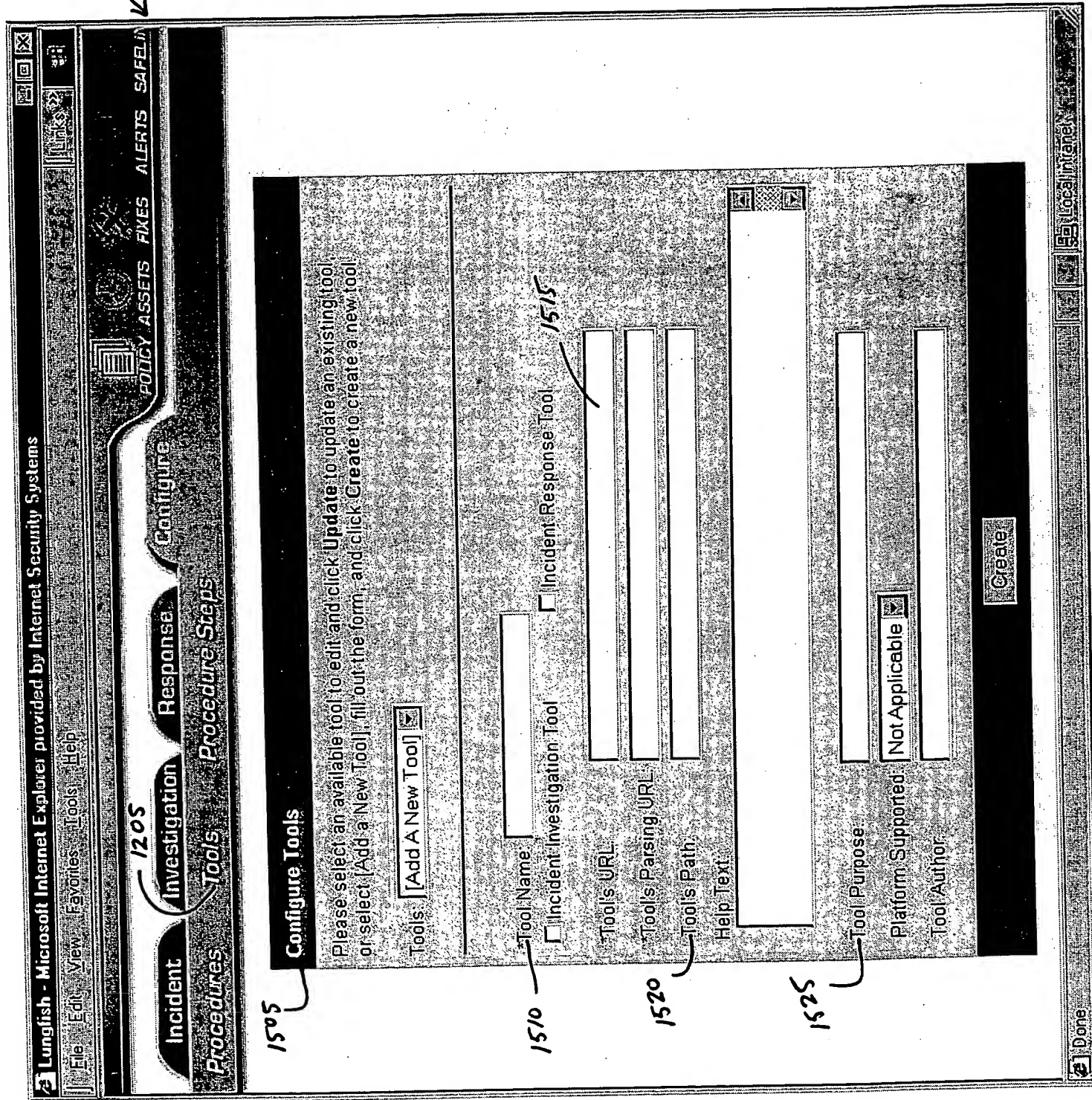*Fig. 11*

Fig. 12

1200

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File   Edit   View   Favorites   Tools   Help

Links >>

POLICY   ASSETS   FIXES   ALERTS   SAFELINK   INCIDE

ISS

Incident

1215   Investigation   1220   Response   Configure

Procedures   Tools   (Procedure Steps)

1210

**Configure Procedures**

Please select a procedure from the following list to view, update or delete. To create a
new procedure, just select "[Create a new procedure]".

1225   Procedure:   [Create a new procedure]   ▶

**Create Procedure**

You can copy from an existing procedure then make necessary changes

DoS Response Procedure   ▶   Copy Procedure

*Procedure Name:

Purpose:   ⦿ Investigation Procedure   ◯ Response Procedure

Attribute Set:   Create Attribute Set

Description:

1230   Available Steps:   ← →   *Selected Steps:   1235

Run WhoIs                        [No procedure steps selected]
RunNMap
Run Traceroute
Run NSLookup
Call FBI

Create Procedure

Done                                    Local intranet

File   Edit   View   Favorites   Tools   Help

Links »   SAFELINK

Incident   Investigation   Response   Configure

POLICY   ASSETS   FIXES   ALERTS

Procedures   Tools   Procedure Steps

1300A

1320   1325   1330   1335   1340   1345   1350

1315

| Username | Password | Config:Write | Config:Read | Incident:Write | Incident:Read | Investigate |
|----------|----------|--------------|-------------|----------------|---------------|-------------|
| admin    | xxxx     | ☑            | ☑           | ☐              | ☐             | ☐           |
| reporter | xxxx     | ☐            | ☑           | ☐              | ☑             | ☑           |
| rixin    | xxxx     | ☑            | ☑           | ☑              | ☑             | ☑           |
| tester   | xxxx     | ☑            | ☑           | ☑              | ☑             | ☑           |

Add User   Update User   Delete User   Save   Exit

1355   1360   1365   1370

Applet started   Local intranet

*Fig. 13A*

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File   Edit   View   Favorites   Tools   Help

Links »

POLICY   ASSETS   FIXES   ALERTS

Incident   | Investigation   | Response   | Configure

Procedures   | Tools   | [Procedure Steps]

**Configure Procedure Steps**

Please select a step from the following list to update or delete. To create a
new step, just select "[Create a new step]"

Step:   [[Create a new step] ▼]

**Create Step**

Please enter necessary information and click the "Create Step" button.

*Step Name:   [                    ]

* Tool Purpose:   ☐ Incident Investigation Step   ☐ Incident Response Step

Description:   [                              ]

?HELP

*Tool   [[Select A Tool] ▼]

*Hyper Link Text:   [                    ]

[Create Step]

Local intranet

*Fig. 13B*

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File  Edit  View  Favorites  Tools  Help

Links »

Incident | Investigation | Response | Configure

Procedures | Tools | Procedure Steps

POLICY  ASSETS  FIXES  ALERTS

**Configure Procedure Steps**

Please select a step from the following list to update or delete. To create a new step, just select "[Create a new step]."

Step: [Run Whois ▶]

1405

**Update Step**

Please change necessary information and click the "Update Step" button.

*Step Name: [Run Whois]

*Tool Purpose: ☑ Incident Investigation Step   ☐ Incident Response Step

Description:

[To find out the domain registration information.]

*Tool: [whois ▶]   [? HELP]

*Hyper Link Text: [Run Whois]

[Update Step]   [Delete Step]

Local intranet

*Fig. 14*

**Lungfish - Microsoft Internet Explorer provided by Internet Security Systems**

File  Edit  View  Favorites  Tools  Help

Links  ALERTS  SAFELI...  FIXES  POLICY  ASSETS

Incident  Investigation  Response  Configure

Procedures  Tools  Procedure Steps

1200

**Configure Tools** — 1505

Please select an available tool to edit and click Update to update an existing tool, or select [Add a New Tool], fill out the form, and click Create to create a new tool.

Tools: [Add A New Tool]

Tool Name: — 1510

☐ Incident Investigation Tool    ☐ Incident Response Tool — 1515

Tool's URL

Tool's Parsing URL — 1520

Tool's Path

Help Text

Tool Purpose: — 1525

Platform Supported: Not Applicable

Tool Author

Create

Done    Local Intranet

1500

*Fig. 15*

File Edit View Favorites Tools Help

Links »

POLICY ASSETS FIXES ALERTS SAFEL...

Incident | Investigation | Tools | Response | Configure

Procedures | Procedure Steps

1600

1605

**Configure Tools**

Please select an available tool to edit and click Update to update an existing tool, or select [Add a New Tool], fill out the form, and click Create to create a new tool.

Tools: whois

Tool Name: whois

☑ Incident Investigation Tool   ☐ Incident Response Tool

Tool's URL: whois_interface.jsp
Tool's Parsing URL: parse_tool_result.jsp
Tool's Path: /usr/bin/whois
Help Text:
This is a Linux tool to find out the Internet domain registration information.

Tool Purpose: Find Domain Registration Info
Platform Supported: Linux
Tool Author: N/A

Update   Delete

Local intranet

*Fig. 16*

Fig. 17

Fig. 18

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File   Edit   View   Favorites   Tools   Help

Links >>

1800

POLICY   ASSETS   FIXES   ALERTS   SAFELINK   INCIDENT

ISS

Incident   Investigation   Response   Configure

Procedure   Tools   Action Records   Document

Procedure:   [DoS Investigation Procedure ▼]   Incident:   9639314 22647–07/18/2000 10:40:00 AM–DDoS Attack on Major Internet Sites   ▶

1805

1810

Select Step To Run

Please select a step and then click the "Select" button.

[Run Whols ▼]   [Select]

1815

Procedure - DoS Investigation Procedure

Click the hyperlink of the steps that you would like to execute.

Run Whols

RunNMap

Run Traceroute

Run NSLookup

Call FBI

Local intranet

1900

1905

Investigation

1915

Traceroute

Call Police

?

Search WhoIs Database

Response

1910

1925

X

1920

Kill Connection

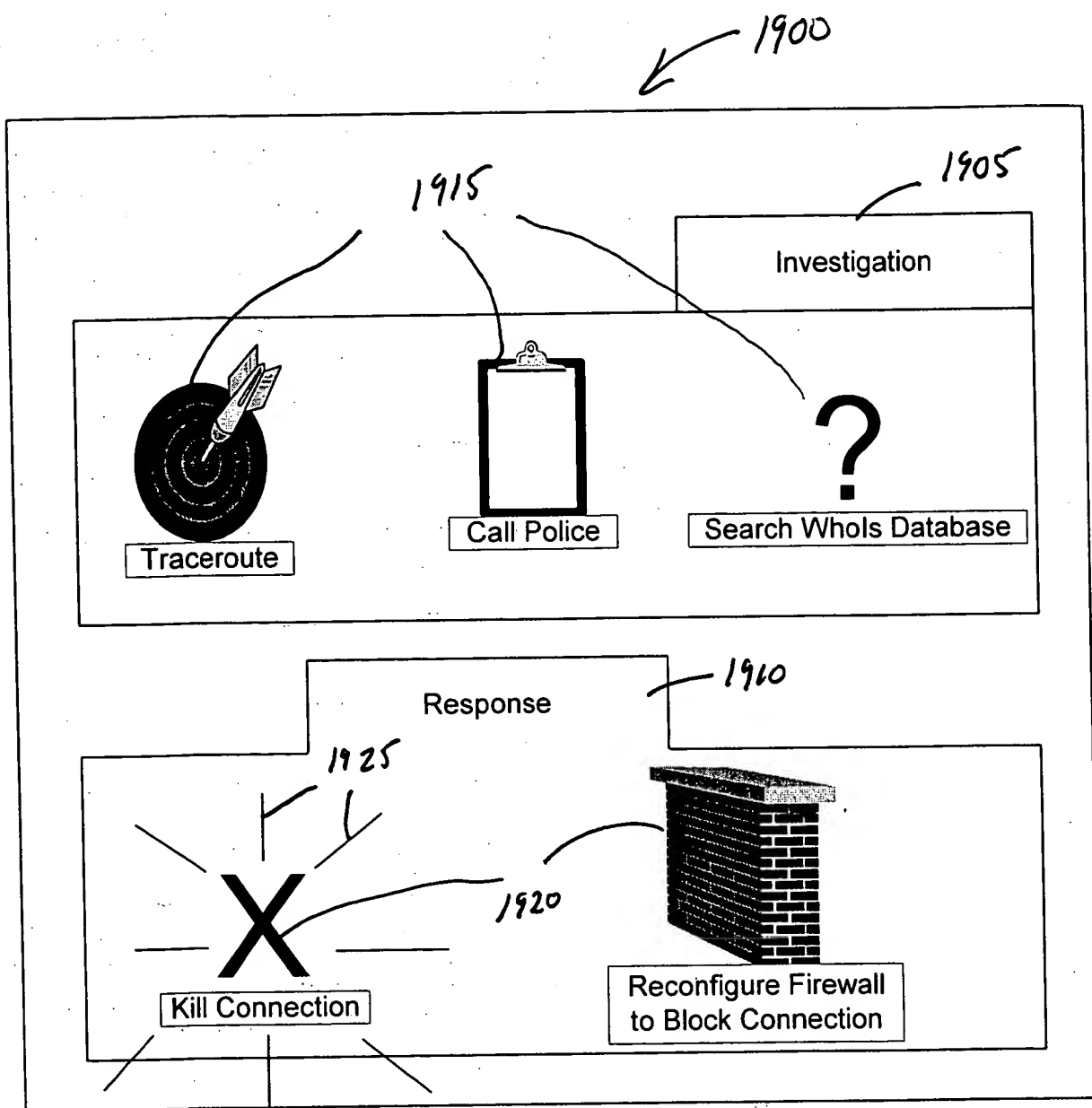Reconfigure Firewall
to Block Connection

**FIG. 19**

DDoS Response Procedure

1. Kill Connection — 2010
   (Reminder: Executing this step could interrupt on-line transactions that are in progress)

2. Reconfigure Firewall to Block Connection — 2005

   | Caution: Executing this step could also interrupt service to this site that are for legitimate uses |

3. Call Police

— 2050

**FIG. 20**

— 2100A

Strategic Machine Table

| Step to be Performed — 2105 | Computer Internet Address Range — 2110 | Tool Servers — 2115 |
|---|---|---|
| Block Connection | 00.000.00.00. - 100.100.100.100.<br>101.101.101.101. - 155.155.155.155.<br>156.156.156.156. - 255.255.255.255. | SC 1<br>SC 2<br>SC 3 |
| Run Tripwire | 00.000.00.00. - 100.100.100.100.<br>101.101.101.101. - 155.155.155.155.<br>156.156.156.156. - 255.255.255.255. | SC 3<br>SC 2<br>SC 1 |
| Dump Network Packets | 00.000.00.00. - 100.100.100.100.<br>101.101.101.101. - 155.155.155.155.<br>156.156.156.156. - 255.255.255.255. | SC 1<br>SC 3<br>SC 2 |

**FIG. 21A**

| Security Agent | Status | Incident Name | Procedure Used | Incident Date | Procedure Start date | Incident Source | Target |
|---|---|---|---|---|---|---|---|
| Adams, James | Closed | DoS Attack on Firewall | DoS Response Procedure | 11/15/99 | 11/25/99 | 123.456.789.909. | Yahoo! |
| Bastin, Knicole | In Response | DoS Attack on Corporate Web Server | Dos Response Procedure | 11/15/99 | 11/29/99 | 455.326.8999.494. | AOL |
| Castle, Marie | In Response | Virus Attack on Accounting | Virus III Response | 11/15/99 | 11/26/99 | 345.546.888.22. | Accounting |
| ••• | ••• | ••• | ••• | ••• | ••• | ••• | ••• |

*FIG. 21B*

Lungfish - Microsoft Internet Explorer provided by Internet Security Systems

File   Edit   View   Favorites   Tools   Help

Back   Forward   Stop   Refresh   Home   Search   Favorites   History   Mail   Print   Links

Address  http://entserver/sma/   Go

Incident   Investigation   Response   Configure
Report   View   Search   Edit

POLICY ASSETS FIXES ALERTS SAFELINK

2100

2130

**Configure Toolserver**

*Host Name          dhcp3-245.iss.net

*Host IP            208.21.3.245

Port                22

*Login account      root

*Password           ••••••••

*Password (Confirm) ••••••••

*SSH identity file                          Browse

                    Update

Done                                         Local intranet

Fig. 21C

# Start

_2200_

## 2205
Monitor Computer System for any Incident(s) and Obtain Incident Information

## 2210
Record Details of Incident with corresponding Date/Time Stamp

## 2215
Select Investigation Procedure

## 2220
Display Investigation Procedure and Record Investigation Steps & User Name with Corresponding Date/Time Stamp

## 2225
Pause Procedure?

Yes → ## 2230
Pause Procedure

No →

## 2235
Open Previously Recorded Incident?

Yes → ## 2240
Perform Search and Obtain Incident Selection

No →

## 2245
Select Response Procedure

## 2250
Display Response Procedure and Record Response Steps & User Name with corresponding Date/Time Stamp

## 2255
Add/Delete/Modify a Tool/Step?

Yes → ## 2260
Obtain Tool/Step Data

No →

## 2265
Add/Delete/Modify a Procedure?

Yes →
No →

## 2270
Obtain Procedure Data

## 2275
Run Tool Manually?

Yes → ## 2280
List Available Tools, Run Selected Tools, Record Tool Results with corresponding Date/Time Stamp

No →

## 2285
Output Record of Incident Monitoring and Response?

Yes → ## 2290
Output Permanent Record of Recorded Incidents and Response

No →

END

*FIG. 22*

2220, 2250

**Start from Fig. 22**

2300
Display Available Procedures

2305
Obtain Procedure Selection

2310
Display Steps of Selected Procedure

2315
Obtain Step/ Tool Selection

2325
Locate Appropriate Computer to Execute Step/Tool

2330
Execute Step/Tool with Located or Selected Computer

2335
Record Steps Executed, User Name or id, Results of Executed Steps, and Date/Time stamp to local database

2340
Extract Portion(s) of Results for Incident Identification

2345
Display Output of Executed Steps

Return to Step 2225 or 2255 of Fig. 22

**FIG. 23**

**2325**

Start from
Fig. 23

**2400**

Access Table
of Computers

**2405**

Compare
Selected Step/
Tool with Table

**2410**

Matching
Computer
exist for Selected
Step/Tool?

—Yes→

**2415**

Forward
Incident and
Command Data
to Matching
Computer

No

**2420**

Indicate Matching
Computer does not
exist and
recommend an
appropriate
substitute Computer

**2425**

Obtain
Selection of
Computer

Return to Step
2330 of Fig. 23

*FIG. 24*

**2230**

Start from
Fig. 22

**2500**

Obtain Incident
Status Information

**2505**

Record Incident
Status Information
with Corresponding
Date/Time Stamp

**2510**

Remove
Incident
from Active
Status

Return to Step
2235 of Fig. 22

*FIG. 25*

_2240_

Start from
Fig. 22

_2600_

Display Selection
Criteria for Stored
Incidents

_2605_

Obtain Selection
Criteria

_2610_

Display Incidents
corresponding to
Selection Criteria

Return to Step
2245 of Fig. 22

**FIG. 26**

_2260_

Start from
Fig. 22

_2700_

Obtain Tool/Step
Name to be Added/
Modified/Deleted

_2705_

Display Corresponding
Tool/Step Information
Fields (filled or unfilled
depending on Tool
Status)

_2710_

Obtain Tool/
Step
Information

_2715_

Save Tool/Step
Information

Return to Step
2265 of Fig. 22

**FIG. 27**

2270

Start from Fig.
22

2800

Obtain Procedure
Name to be Added/
Modified/Deleted

2805

Display Corresponding
Procedure Information
Fields (filled or unfilled
depending on Procedure
Status)

2815

List Current Step/
Tools and Available
Step/Tools

2820

Add/Delete a
Step/Tool in a
Procedure or Create
New Procedure?

No

Yes    2825

Obtain Step/Tool
Information

2830

Save Step/Tool
Information

2835

Modify Step/Tool of
Current Procedure?

Yes    2840

Obtain Step/Tool
Name to be Modified

2845

List Step/Tool
Information

2850        No

Obtain New/Modified
Step/Tool
Information

2855

Save Step/Tool
Information

Return to Step
2275 of Fig. 22

**FIG. 28**

2280

Start from Fig. 22

2900

List Available Tools

2905

Obtain Tool Selection Information

2910

Execute Tool Selection

2915

Record Name of Executed Tool, User name, and Results from Executed Tool with Corresponding Time/Date Stamp to Local database

2920

Display Results of Executed Tool

2925

Continue Running Tools Manually?

Yes

No

Return to Step 2285 of Fig. 22

*FIG. 29*